# CASE MANAGEMENT OF CHILDHOOD FEVER BY TRADITIONAL HEALERS IN SOUTHWEST NIGERIA: IDENTIFICATION OF TRAINING AND COLLABORATIVE NEEDS*

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ABSTRACT

Traditional healers play an important role in the provision of healthcare in many communities in Africa. This study aimed to improve home management of malaria in children by assessing the healer's knowledge and practice. A semi-structured questionnaire interview of 127 traditional healers selected by proportionate sampling technique from two rural and two urban local government areas (LGAs) of southwestern Nigeria was followed by a training

*Funds to execute this project, which was part of the study titled "Incorporating socio-cultural and economic characteristics of mothers and care-givers in home management of malaria" (Project ID 990755), were provided by the MIM/TDR of the World Health Organization, Geneva, Switzerland.

Int'l. Quarterly of Community Health Education, Vol. 28(4) 319-335, 2007-2008

doi: 10.2190/IQ.28.4.e
http://baywood.com

program. Malaria ranked first (87%) among the illnesses managed by the healers. Diagnosis of fever was often (72%) based on client history, physical examination (24.4%), consulting oracles (18.9%), and interpretation of dreams (3.1%). Treatment of malaria was with boiled herbs ("agbo"; 72%), ground herbs ("agunmu"; 14%), and incisions and scarifications (3%). Forty-one (32.5%) healers had referred febrile children to a health facility. Younger healers and those who had at least a secondary education were more likely to refer patients ($p < 0.05$ in both cases). Thirty-six healers (28.4%) had previous formal training on management of fevers, most of whom were the younger ($p < 0.05$), educated healers ($p > 0.05$), with fewer years of practice ($p > 0.05$). Research into traditional herbs (48%), better acknowledgment by government (23.6%), and collaboration with other health sectors were suggestions to improve practice. Traditional healers, especially the older, less-educated, and long-practicing healers, urgently require formal training and collaboration with other healthcare providers to improve knowledge and promote early referral of children with fever.

## INTRODUCTION

Malaria is one of the most prevalent and serious diseases in the world. The estimated toll of malaria is approximately 300 million acute cases per year [1]. Of a total world population of 6 billion, 2.7 billion live in areas where malaria transmission still occurs. This is mainly in tropical Africa [2, 3]. It is estimated that more than 1.1 million children living in Africa die yearly from malaria infection [2, 4]. In addition, malaria costs Africa more than $12 billion annually and has slowed the economic growth in African countries by 1.3% per year [4]. Eighty-five percent of the world malaria infection and 87% of mortality from the disease is estimated to occur in Africa south of the Sahara [2]. In Nigeria, malaria continues to constitute a major health problem; it is one of the five leading causes of outpatient visits and consistently ranks among the five most common causes of death in children under the age of 5 years [5, 6]. According to the Federal Ministry of Health, malaria is responsible for 10% of deaths in children under 5 years of age [6, 7] and the morbidity from malaria may be as high as six episodes per child per year and mortality may reach 39.7% [8].

In Africa, traditional healers are well patronized because they are readily available and affordable [9-14]. The use of herbs is part of the African culture, with as many as a third of West Africans seeking treatment from the traditional healing sector [15, 16]. With little or no support from the government health system, traditional healers strive to meet the healthcare needs of mothers and guardians of children [16, 17]. The decline in quality of services provided by the national, state, and local government health services also resulted in ill patients seeking care from alternative healthcare providers. Traditional healers are believed to be more effective at curing some ailments, and generally to be more humane than orthodox medicine providers [16, 18-20]. The healers command

unique respect in many communities, often know their patients personally, and rarely demand payment before treatment unlike the orthodox healthcare services. Instead, patients can pledge what they can afford or pay in kind [16, 21].

Studies have shown that correct management of children with fever can reduce the adverse effects of the disease [22, 23]. Several studies also have confirmed in vitro anti-plasmodial activity in medicinal plants used by traditional healers [24-26]. In recognition of the role played by traditional healers in the treatment of malaria in the community, the burden of the disease in children, and the confirmed anti-malarial activity of some plants, this study was embarked upon to document the knowledge and case management of fevers by traditional healers in rural communities of Oyo state. The willingness of the healer to collaborate with other health providers and integrate into the health system was also explored.

## METHODS

Oyo state is located in the southwestern region of Nigeria. It is the cradle of the Yoruba land. Its administrative headquarters is Ibadan. Four local government areas (LGAs) (namely, Iseyin, Ogbomoso, Kajola, and Orire LGAs) were purposively selected from the 33 LGAs in Oyo state. Paramount in the choice of LGAs selected was LGAs far (> 100 kms) from the state capital, Ibadan. These LGAs are often marginalized and underserved. Other consideration in the selection were LGAs which were virgin areas for research, access at all seasons of the year to field sites within the LGA, available data to confirm malaria endemicity within the area, availability of local staff to meet project demands, and political will of the LGA authorities. Two LGAs (Kajola and Orire) were rural, while Iseyin and Ogbomoso were urban. These LGAs lie between 100 and 200 kilometers north of Ibadan, our base institution. Selection was such that a rural LGA and an urban LGA were contiguous to each other. The traditional healers were one of the target groups in a project which aimed to improve home management of childhood fevers in these communities [27]. The primary targets in the study were mothers, while the secondary targets were health workers, patent medicine sellers, traditional healers, and policy makers at local and state government levels. This article reports the results of the baseline survey and training of the healers.

A cluster sampling technique was used. A proportionate sampling technique was used to determine the number of traditional healers interviewed in each LGA, using the 1991 census figures. Each LGA is administratively divided into geographical clusters consisting of health districts (wards). The number of districts LGAs ranged between 7 and 10. Each health district was taken as a cluster. From a list of the traditional healers in each district, 25% of the healers were selected by simple balloting for each district. When the number obtained was a fraction, it was approximated to the nearest whole number. A minimum sample size of 108 healers was estimated; data were collected from 127 traditional healers.

Before data collection commenced, advocacy visits were paid to the LGA authorities to inform them of the project and solicit their support. The executive and, later, other members of the traditional healer association for each LGA were met collectively to explain the purpose of the study and obtain their cooperation. The respondents were assured that all information would be kept strictly confidential (particularly from other herbalists) and that information on the composition and methods of preparation of herbal remedies were not required. Anonymity was assured by not requesting names on the questionnaires. Interviewers were trained on the need to keep responses confidential. Informed consent was obtained from the respondents who were free to decline to give information they considered personal.

Data collection was over a six-week period in year 2000. Data were collected simultaneously in the four LGAs. Data collection began early in the morning and ended in the evening. The data were collected at the traditional healer's house or healing homes. The data collection instrument consisted of an interviewer administered semi-structured questionnaire, comprised of 37 questions. Responses to the questions were varied; in some questions the respondents chose the one most appropriate answer, while some questions were open-ended. The questionnaire was in Yoruba, the local language. The questionnaire addressed the following issues:

1. socio-demographic characteristics—to have an insight into the age, sex, level of education, and religion of the healers;
2. training and experiences in healing—an indication of how the healers acquired the art, including years of working experience;
3. utilization of traditional healing services—to determine extent of patronage by the members of the community;
4. types of illness treated by the healers—types of illnesses managed and if the healers specialized in particular diseases or age groups;
5. types of fevers treated in children—culturally different types of fever are described, specific information on malaria fever was obtained;
6. treatment of fever and febrile convulsion—information on treatment practices, route of administration of the herbs, and documentation of patients seen;
7. referral to modern health facility—information on the reasons for referrals, stage at which patients are referred, and if documented;
8. role of the association of traditional healers—information on the role and activities of the association, particularly with the hope of fostering collaborative links with other health sectors;
9. participation in training programs—the proportion of healers exposed to formal training on health and on malaria fever was obtained, including follow-up activities following the training; and
10. suggestions for improving the health—traditional healers gave suggestions on how to improve healthcare delivery.

The questionnaire was pilot tested in Iddo LGA on 20 traditional healers randomly selected from the list of traditional healers in the LGA. After the pilot study, some questions were amended before data collection commenced. The interview was conducted by trained research assistants and coordinated by supervisors. The research assistants were young men and women between 18 and 26 years of age with at least secondary school education. All had previous experience at data collection and did not reside in the study area to promote confidentiality. The assistants were trained on how to administer the questionnaire. The training was conducted in Yoruba and English by the investigators over a one-week period. On completion of the training, the research assistants were evaluated on the efficiency and consistency of their responses, before they were allowed to commence data collection. The supervisors (a man and a woman aged between 30 and 40 years of age) who had tertiary education identified the healers, explained the purpose of the study to respondents, and obtained informed consent. The data were collected in December 1999. A total of 127 traditional healers were interviewed. The data were analyzed on a microcomputer using the EPI-INFO statistical software package. The frequency of the distribution of each variable was obtained. Cross tabulation was done using the appropriate test such as ANOVA and Chi-square test. Difference was deemed to be statistically significant when $p$ was less than 0.05.

## Training Program

A one-day training program on malaria was organized for traditional healers from both Kajola (32) and Iseyin (36) LGA. The participants were nominated by the healers association. The goals of the training were to educate healers on the management of childhood malaria. The training was done in hotel halls. The training sessions were interactive and audience participatory. Training methods were mainly question and answers and discussion of case-scenarios. Initially the traditional healers were secretive and hesitant to participate in the interviews because they did not want their colleagues to know about their practice and herbal remedies. However, when they were informed that information on the composition and use of their herbs was not required, they felt at ease to participate. The healers were encouraged to share experiences on cases referred. The trainers comprised the research team, public and private medical practitioners in the area, and local government primary healthcare workers. The training was in Yoruba (the native language).

First, the healers were asked to mention the common diseases of children they treat and types of fever they know. Then they were asked to group fevers mentioned into simple and complicated types. They also were asked to mention causes of various types of fever mentioned. Following each question and the healer's reply (both correct and incorrect) to each question, the investigators discussed extensively the following themes:

a. causes of malaria;
b. signs and symptoms of the disease;
c. early warning signs—signs of complicated or severe malaria;
d. when and how to refer children with fever; and
e. prevention of malaria infection.

Also discussed were:

f. results of baseline survey on the healers;
g. collaboration with other healthcare providers; and
h. suggestions on ways to improve traditional healing practice.

## RESULTS

### Socio-Demographic Characteristics

Most (72.4%; 92/127) of the traditional healers were males; also, most (66%; 84/127) were in the 50-60 years of age bracket. The mean age was 56.2 (± 8.9) years. Slightly over half (59%) had primary school education; 9% had secondary education, while 32% had no formal education. Fifty-five percent (70) were Moslems, 33% (42) were Christians, while 12% (15) practiced African traditional religion.

### Training and Experience

About 80% (101) of the traditional healers inherited the art from their parents or were brought up in families where the art of healing was practiced. Only 13.4% (17) learned the art through informal training or apprenticeship under an instructor. Seventy (55.1%) of the respondents had practiced the art for between 5 and 10 years; 26.7% (34) for about 20 years; while 23 (18.2%) had been healers for 10-20 years. Most (91%) combined healing with other occupations. The occupation was mostly farming (70%).

### Utilization of Traditional Healing Services and Illnesses Treated

Using the number of people who came for treatment for various ailments in the last two days preceding the interview as an indicator, 93 healers (73.3%) treated an average of three patients per day, 21 (16.5%) healers treated six patients per day, 12 (9.4%) an average of 12 patients per day, while one (0.8%) claimed he treated 15 patients per day. The number of children treated for fever in the two days preceding the interview were as follows: 78 (61.4%) traditional healers treated an average of three per day, while 18 (14.2%) managed six per day. Thirty-one respondents (24.4%) had treated only one child with fever during the specified time interval. Malaria was the commonest (123 or 96.9%) illness managed in children, followed by febrile convulsion (95 or 74.8%). Cough

ranked third (91 or 71.7%) and diarrhea fourth (73 or 58.9%). Other childhood illnesses (22 or 17.3%) treated were: measles, "teething problems," "pile" (local term which could mean diarrhea, hemorrhoids, rectal prolapse, low back ache, among others), "cold," and "jaundice." Only two of the healers had a register or written records of patients seen.

## Types of Fever Treated by Traditional Healers

Types of fever treated by the traditional healers were "hot body fever" or "Iba Igbona" (97 or 76.4%), typhoid fever (54 or 42.5%), "yellow eyes fever" (48 or 37.8%), "jaundice fever" or yellow body fever (39 or 30.8%), "Ako Iba" or severe malaria (14 or 11.0%), "Iba ojo" or "rain fever" (4 or .1%), "Orere" or "fatigue fever" by 2.4% and "Iba dudu" or "black fever" by 0.8% (see Table 1).

The diagnosis of the type of fever was made by listening to the patient's complaints (127 or 100%). Examination of the child by looking at the color of the eyes, skin, nails, and urine was indicated by 24.4% (31), while 18.9% (24) also consulted the oracles, and 3.1% (4) received diagnoses in dreams.

## Treatment of Fever and Febrile Convulsion

Treatment of fever was mainly (71.6%) by giving a combination of boiled herbs, traditionally called "Agbo." Powdered herbs—"Agunmu"—was given by 14.1%, while 3.1% made scarifications and incisions (see Table 2).

The route of administration of the herbs was most often oral (88.1%). Other routes of administration included bathing with herbal infusion—"agbo"—

Table 1. Types of Fever Treated by Traditional Healers

| | Number | Percent[a] |
|---|---|---|
| Malaria fever | 97 | 76.3 |
| Typhoid fever | 54 | 42.5 |
| Yellow fever | 48 | 37.8 |
| Jaundice | 41 | 32.3 |
| "Ako Iba" (severe malaria) | 14 | 11.0 |
| Teething fever | 11 | 8.7 |
| "Iba ojo" (rain fever) | 4 | 3.1 |
| "Iba dudu" (black fever) | 1 | 0.8 |
| "Orere" (fatigue fever) | 3 | 2.4 |
| No response | 9 | 7.1 |

[a]Multiple responses

Table 2 Options Used by Traditional Healers for Treatment of Childhood Fevers and Febrile Convulsion

| | Fever | | Febrile convulsion | |
|---|---|---|---|---|
| | No. | % | No. | % |
| Boiled herbs "Agbo" | 91 | 71.6 | 92 | 72.4 |
| Soaps | 5 | 3.9 | 7 | 5.5 |
| Combination of dry herbs | 5 | 3.9 | 1 | 0.8 |
| Powder "Agunmu" | 18 | 14.2 | 3 | 2.4 |
| Local cream | 4 | 3.2 | 2 | 1.6 |
| Incision/scarification | 4 | 3.2 | 8 | 6.3 |
| Incantations | — | — | 4 | 3.2 |
| Soup | — | — | 1 | 0.8 |
| Do not treat | — | — | 9 | 7.0 |
| Total | 127 | 100 | 127 | 100 |

(11.0%), rectal insertion (0.8%), inhalation (0.8%), and topical application (3.1%). Febrile convulsion was treated mainly with "Agbo" by 93% of respondents. The common routes of administration of the "agbo" was oral (90 or 71.4%), bathing (12 or 9.5%), and rubbing on the body (6 or 4.8%). Other modes (9 or 7.1%) of administration of "agbo" were the drinking of herbal soups (7.1% or 9), inhalation of fumes and making scarification marks on the body. Nine traditional healers (7.2%) admitted they do not manage children with febrile convulsion. When asked whether they combined orthodox drugs with native drugs to manage fever, their answers were in the affirmative. Drugs used included chloranphenicol, tetracycline, septrin, vitamin B, paracetamol, and phensic. Since they use modern drugs, the appropriate antimalarial drugs to use were emphasized; these are usually available from patent medicine sellers and health workers.

## Referral to Modern Health Facility

About a third (41 or 32.3%) had referred children with malaria to a modern health facility in the last year. The reasons for referral were: non-response to traditional treatment (26 or 63.4%); severe illnesses requiring blood transfusion (5 or 12.2%); febrile convulsion, anemia, or suspected typhoid fever (8 or 19.5%); and fever in the neonate (2 or 4.9%). The healers who referred clients were more likely to be the young ($p < 0.05$), educated ($p > 0.05$), and less experienced ($p < 0.05$) practitioners (see Table 3).

Table 3. Socio-Demographic Characteristics by Utilization, Referral, and Training Experiences of the Healers

| | Socio-demographic characteristics | | | | | |
|---|---|---|---|---|---|---|
| | Age | | Education | | Years of practice | |
| | ≤ 56 yrs $N = 64$ | > 56 yrs $N = 63$ | </= sec $N = 86$ | > secondary $N = 41$ | ≤ 10 yrs $N = 70$ | > 10 yrs $N = 57$ |
| Utilization of services | | | | | | |
| > 5 cases/day | 19 (29.6) | 12 (19.0) | 17 (19.7) | 14 (34.2) | 14 (20.0) | 27 (47.4) |
| < 5 cases/day | 45 (76.6) | 51 (81.0) | 69 (80.3) | 27 (65.8) | 56 (80.0) | 30 (52.6) |
| | $\chi^2 = 1.41, p > 0.05$ | | $\chi^2 = 2.38, p > 0.05$ | | $\chi^2 = 9.55, p < 0.05$ | |
| Ever referred to health facility | | | | | | |
| Yes | 29 (45.3) | 12 (19.0) | 27 (31.4) | 14 (34.1) | 30 (42.8) | 11 (19.2) |
| No | 35 (54.7) | 51 (81.0) | 59 (68.6) | 27 (65.9) | 40 (57.2) | 46 (80.8) |
| | $\chi^2 = 8.85, p < 0.05$ | | $\chi^2 = 0.01, p > 0.05$ | | $\chi^2 = 6.94, p < 0.05$ | |
| Ever attended training | | | | | | |
| Yes | 28 (43.7) | 17 (26.9) | 29 (33.3) | 16 (39.0) | 26 (37.1) | 19 (33.3) |
| No | 33 (56.3) | 49 (73.1) | 57 (66.6) | 25 (61.0) | 4 (62.9) | 38 (66.6) |
| | $\chi^2 = 4.78, p < 0.05$ | | $\chi^2 = 0.15, p > .05$ | | $\chi^2 = 0.07, p > .05$ | |

The mean number of cases referred was one case per month, but ranged from none to five in a month. Twenty-five healers (60.9%) referred two cases, while 16 (39.1%) referred none in the two months before the survey.

## Association of Traditional Healers and Village Health Committee and Their Activities

All the traditional healers were aware of the Association of Traditional Healers in their LGA; 107 (84.2%) of them were members of the associations. The roles of the associations were to: "exchange ideas and improve knowledge on use of herbs and management of diseases" (48%), "caution and correct erring practitioners" (14.2%), and "ensure uniformity in operations and standardize activities" (15.7%). Details of the roles of the umbrella association of traditional healers are shown in Table 4.

Seventy-four healers (58.3%) were from communities that had a village health committee in place and 56 (75.7%) were members of the village health committees.

## Training Programs

Forty-five (35.4%) respondents had attended a training program on health at some point in their career. The training programs were organized by a governmental (32.8%) or non-governmental organization (61.2%). The number of trainings attended ranged from 1 to 5, with a mean of less than 1 (0.75 ± 1.7) training per healer. Of the 45 trained healers, 36 (80%) had attended training on malaria or in which malaria was discussed. Inquiries as to lessons learned at the training revealed that: 31% learned how to differentiate the different types of

Table 4. The Roles of Association of Traditional Healers

| | Number | Percent |
|---|---|---|
| Exchange ideas and knowledge | 61 | 48.0 |
| Caution and correct erring practitioners | 18 | 14.2 |
| Ensure uniformity in operation | 20 | 15.7 |
| Control unregistered practitioners and conduct induction courses for new members | 7 | 5.5 |
| Promote religion | 6 | 4.7 |
| Look into welfare of members | 2 | 1.6 |
| No response | 13 | 10.3 |
| Total | 127 | 100 |

fevers; 25% learned about the complications of the disease; and 19% learned about treatment modalities used in the management of fevers; 17% about new anti-malarial drugs, while 8% learned the importance of environmental sanitation in the prevention of malaria. Following the training, follow-up visits to the traditional healers were paid by 18 (40.0%) trainers/organizations. The purpose of the follow-up was to solve problems (32.1%), identify progress made when managing cases (32.1%), and give support and advice (35.8%) to the traditional healer's activities. The healers who had training opportunities were generally the younger ones (44% vs. 27%, $p < 0.05$) and those with better education (39% vs. 34%, $p > .005$) (see Table 3).

## Suggestions for the Future

Suggestions of the healers on how to improve traditional healthcare services were: "better recognition of the activities of traditional healers by government" (31 or 24.4%),"cleaner and more hygienic practices during preparation of herbs" (14 or 11.0%), "collaboration with health workers" (12 or 9.4%), and "regular training programs" (9 or 7.1%). Sixty-one (48.1%) gave no suggestion. Suggestions to improve the health sector was by "adding what we know when called upon" (28%), "put in place a traditional health institution" (23%), "introduce use of local herbs in the hospital" (36%), and "form societies and associations" (13%) (see Table 5).

## Outcome of the Training

Following our training it was agreed by the traditional healers, resource persons, and investigators that:

1. The healers will examine every patient who presents with fever and decide whether he should treat or refer to a health facility.
2. The presence of danger signs (namely anemia, dehydration, and convulsion) was discussed with the healers and this could be used as a guide in making the decision to refer.
3. Healers would manage only diseases they have the competence to manage.
4. If the child fails to respond to herbal treatment after a few days of treatment, the healers should refer immediately.
5. Every healer was encouraged to develop a stable and permanent relationship with a health facility to which children could be referred. In this facility, he should try to relate closely with at least a health worker to whom he can turn for help.
6. Healers were advised to desist from combining orthodox and traditional drugs to avoid complications which may result from drug interaction.

Table 5. Suggestions Given by Traditional Healers to Improve Their Practice

| | Number | Percent |
|---|---|---|
| Better recognition of traditional healers by government | 30 | 23.6 |
| Improved level of hygiene with utensils and procedure for the preparation of herbs | 14 | 11.0 |
| Health workers should come for our meeting and advise us | 12 | 9.5 |
| Establish traditional healers clinic | 11 | 8.6 |
| Create awareness of their activities among the community especially healthcare workers | 10 | 7.8 |
| Have regular training programs | 9 | 7.1 |
| Form associations and groups and hold meetings regularly | 6 | 4.8 |
| Government should fund research on preservation, dosing, and treatment with herbs | 6 | 4.8 |
| Honesty and prayers | 8 | 6.2 |
| None | 21 | 16.6 |
| Total | 127 | 100 |

7. Every traditional healer was expected to keep a stock of referral cards distributed by the association of traditional healers and keep simple records of cases referred.
8. A liaison committee of the association of traditional healers, patent medicine sellers, and health workers was inaugurated. The committee would meet regularly to foster collaboration in the management of childhood malaria.

The healers reaffirmed their commitment to collaborate with other health workers and agreed to refer cases they could not handle. Other suggestions which the healers felt could improve the standard of their practice were having joint meetings with patent medicine sellers and other health workers to exchange ideas, scientific evaluation of the efficacy of their herbs, and official recognition of the traditional healers by orthodox medical practitioners.

## DISCUSSION

Most of the traditional healers had long standing years of experience in the use of herbs, many from childhood. The traditional healers constitute important members of the community healthcare system, as they were well-patronized and

many of them were members of the various village health committees. Mothers and other caregivers often go to visit traditional healers for treatment before presenting at the health facility or do so only when there is no response to orthodox treatment. Parents may also patronize healers [10, 18, 19, 28, 29]. The healers can thus serve as health educators of mothers and community members on the prevention and control of malaria. "Agbo" is the common therapy used by the healers in this environment. It is an herbal tea made from roots, barks, and leaves [30, 31].

Some of these herbs have been confirmed to possess anti-malarial properties [26, 30, 31]. Perhaps a more important consideration for patronizing healers is the relatively cheaper cost of herbs compared with modern drugs. For instance, a portion of herbs may cost as low as 20 cents, while chloroquine costs about 50 cents, sulphadoxine/pyrimethamine (Fansidar®) 1 dollar, while artesunate/amodiaquine combinations costs about 5 dollars. Patients may need to pay for consultation and laboratory investigation in addition to the cost of drugs. Also, the poor level of service provided by the conventional health sector has resulted in the loss of confidence by members of the public in these facilities. The modern health facilities are plagued with shortages of drugs, medical supplies, and equipment [18, 28, 29]. Furthermore, many health workers lack incentive to work because they are overworked and underpaid, and often become insensitive to patients' illnesses [16].

The traditional healers treated five major types of fevers: ordinary fever or uncomplicated malaria, typhoid fever, "yellow fever" or jaundice, and severe malaria/febrile illness. The ability to correctly diagnose type of fever is doubtful, and the treatment of severe malaria remains questionable considering the limited skills of the healers. However, commendable is the fact that the healers appreciated that fever could be due to different causes and manifest in various ways. It is noteworthy that a few traditional healers conducted physical examinations on their clients. The healers will benefit from interventions that would improve their diagnostic and case management skills. Training programs on common childhood illnesses, especially on malaria fever, including the basics of primary healthcare would improve diagnosis and treatment of childhood fevers. Also worthy of note was the fact that some healers knew the limits of their abilities, and did not attempt to manage children with severe malaria, febrile convulsion, and complicated cases. Indications for referrals showed concern for patients' welfare and health. These positive attributes should be reinforced at the trainings meetings and other healers should be helped to a similar level of appreciation.

The healers recognized the need to improve their knowledge and management practices and most welcomed the training proposed by the research team. Our assessment shows that the content of the training should include information on the cause, signs, and symptoms and complications of malaria fever, how to differentiate malaria from the other fevers, how to recognize severe

malaria, signs of non-response to treatment, and when to refer children with fever to a health facility. Additionally, the importance of documentation of cases managed, treatment modalities, and outcome of treatments should be emphasized at the training. The problem envisaged in this regard is the low level of education of most of the healers, and, therefore, the inability to write or document patients' records. A few healers made scarifications and incisions on the patient; the grave danger with this practice is the risk of transmission of HIV. Thus, trainings addressed at healers should discourage this practice and emphasize use of aseptic techniques and good personal hygiene in patient care/management.

The healers were eager to collaborate with other healthcare providers. Collaboration has the advantage of linking the healers with health workers and thereby improving management and referral of patients. Second, it would help to demystify the practice of traditional medicine. Historically, traditional healers tend to be secretive [26]. Third, it would promote ethno-botanical studies on the plants used for herbal preparations. For the collaboration to be meaningful, the three major health providers—traditional healers, health workers, and drug providers—should be involved. These three groups need to learn to communicate with each other and harmonize healthcare delivery in the communities based on mutual respect. The healers long for training opportunities. The training programs should be preferentially targeted at the older, less educated, longer practicing healers who probably, because of their lack of education, were not as exposed to training programs and did not make as many referrals. In addition, this group appeared to be more patronized than their younger, better-educated counterparts. This is probably due to the fact that they have built up a clientele over the years and as such are better known in the various communities.

Some of the activities of the association of traditional healers are commendable. For example, self-regulation of sale and practice of native healers is crucial to ensure safe conduct. In addition to this, the association should also monitor quality, safety, and efficacy of medicines [30]. However, the ability of the associations to effectively monitor its members is doubtful considering that healers tend to be secretive. Thus, federal, state, and local government authorities should be involved in the monitoring process. Better acknowledgment of the traditional healers' association will promote the formulation of code of ethics, regulatory criteria, training of healers, and will help keep charlatans out of the profession [12]. Traditional medicine use and practice will be demystified and destigmatized. The healers themselves need to be less secretive for their association to be able to make meaningful progress. Traditional medicine is known to be a valid health system, and safe herbal medicines are a valuable contribution to society [9]. However, indigenous healers must give adequate information about their remedies, dosages to be used, possible adverse reactions, and drug interactions, so that patients will know how to use them properly. Public education about the safe use of traditional medicine is also needed.

## CONCLUSION

Traditional healers represent an important sector of the health system in Nigeria. They manage different types of fever in children, usually with "Agbo" which was often administered orally. The utilization of traditional healers for treatment of childhood fevers is likely to continue considering that their services are relatively cheaper, easier to access, and generally more available particularly in the rural areas. However, training programs on how to correctly diagnose malaria, recognition of severe or complicated malaria, when to refer children, and signs of non-response to treatment are necessary. Training should also focus on safe treatment practices and documentation of records. Collaboration and integration of the healers into the health system will demystify practice and improve case management. Healers can be used as health educators of community members on the prevention and control of malaria. Activities of the healers should be monitored by government agencies. Education of the public on safe use of traditional medicines is also required.

## ACKNOWLEDGMENTS

The authors thank the program officers and the research assistants for their untiring efforts. We also acknowledge the support and cooperation of the Association of Traditional Healers in Iseyin, Kajola, Ogbomoso, and Orire LGAs.

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